

Antimicrobial prophylaxis in paediatric surgical procedures

Surgery	Procedure	Antibiotic (IV)	Pre-incision Dose	Intra-operative Doses
ENT	General airway procedures • Adenoidectomy • Direct (Operative) Laryngoscopy and Bronchoscopy • Tonsillectomy	Not recommended		
	Major ENT surgery (e.g. Mastoid surgery, tympanoplasty, tracheostomy, cochlear implant)	Co-Amoxiclav	30mg/kg (Max 1.2g)	4 hours. Max: 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Penicillin allergy: Cefuroxime	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours Neonate (<44 weeks): 6 hours at 30mg/kg .
	If severe Penicillin allergy or MRSA : Teicoplanin	10mg/kg (max 800mg): (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing	
General Surgery	Upper Gastrointestinal Surgery (Including thoracic surgery & gastrostomy insertion, cholecystectomy, splenectomy, oesophageal, gastric and small bowel)	Co-Amoxiclav	30mg/kg (max 1.2g)	4 hours. Max: 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Penicillin allergy: Cefuroxime	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours Neonate (<44 weeks): 6 hours at 30mg/kg .
		If Severe Penicillin allergy or MRSA : Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing
	Lower Gastrointestinal Surgery (rectal or colonic surgery)	Co-Amoxiclav	30mg/kg (max 1.2g)	4 hours. Max: 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Penicillin allergy: Cefuroxime PLUS	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours. Neonate (<44 weeks): 6 hours at 30mg/kg .
		Metronidazole	15mg/kg (max 500mg) over 20 mins	8 hours at 7.5mg/kg Neonates (<44 weeks): refer to BNFC
		If severe Penicillin allergy or MRSA : Clindamycin PLUS	10mg/kg (Max 600mg) (Neonates: 5mg/kg)	6 hours. Neonates (<44 weeks): 8 hours.
		Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing
	Appendicectomy (Do not give if initial dose of antibiotic given within time recommended in intra-operative dose section i.e. co-amoxiclav (4 hours))	Co-Amoxiclav	30mg/kg (max 1.2g)	Max: 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Penicillin allergy: Cefuroxime PLUS	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours. Neonate (<44 weeks): 6 hours at 30mg/kg .
Metronidazole		15mg/kg (max 500mg) over 20 mins	8 hours at 7.5mg/kg Neonates (<44 weeks): refer to BNFC	
If severe Penicillin allergy or MRSA : Clindamycin PLUS		10mg/kg (Max 600mg) (Neonates: 5mg/kg)	6 hours. Neonates (<44 weeks): 8 hours.	
	Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing	
Neurosurgery	Neurosurgical procedures/ Neurosurgical spinal procedures	Cefuroxime	50mg/Kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours. Neonate (<44 weeks): 6 hours at 30mg/kg .
		Penicillin allergy or MRSA : Teicoplanin	10mg/kg(max 800mg) (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing
	Neurosurgery involving mastoid/nasal sinus (with ENT discussion)	Cefuroxime PLUS	50mg/Kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours Neonate (<44 weeks): 6 hours at 30mg/kg .
		Metronidazole	15mg/kg (max 500mg) over 20 mins	8 hours at 7.5mg/kg Neonates (<44 weeks): refer to BNF
		Severe penicillin allergy or MRSA : Teicoplanin PLUS	10mg/kg(max 800mg) (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing
		Metronidazole	15mg/kg (max 500mg) over 20 mins	8 hours at 7.5mg/kg Neonates (<44 weeks): refer to BNF
	Extra Cranial Implants (Vagal Nerve Stimulation/ Baclofen pumps)	Flucloxacillin	25mg/kg (max 1g)	4 hours Neonate (<44 weeks): no repeat dosing.
Penicillin Allergy or MRSA : Teicoplanin		10mg/kg(max 800mg) (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing	
Antibiotic irrigation washes Note: Gentamicin and Vancomycin irrigation washes may be used as the discretion of the neurosurgical surgeon. Administration of Antibiotic irrigation washes must only be done by members of the neurosurgical medical team and by trained members of staff only.				
Plastics	Elective Soft Tissue surgery	No prophylaxis: unless complex/ prolonged procedure or contaminated		
		If complex: Flucloxacillin	25mg/kg (max 1g)	4 hours Neonate (<44 weeks): no repeat dosing.
		Penicillin allergy: Cefuroxime	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours Neonate (<44 weeks): 6 hours at 30mg/kg .
		Severe Penicillin Allergy or MRSA : Teicoplanin	10mg/kg(max 800mg) (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing
Orthopaedic Surgery	Procedures involving implantation metalwork	Cefuroxime	50mg/Kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours. Neonate (<44 weeks): 6 hours at 30mg/kg .
		Severe Penicillin allergy or MRSA : Teicoplanin	10mg/kg (max 800mg) (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing
	Open fractures	Co-Amoxiclav PLUS	30mg/kg (max 1.2g)	4 hours. Max. 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing
		Penicillin allergy: Cefuroxime PLUS	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours. Neonate (<44 weeks): 6 hours at 30mg/kg .
		Metronidazole PLUS	15mg/kg (max 500mg) over 20 mins	8 hours at 7.5mg/kg Neonates (<44 weeks): refer to BNF
		Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing
		If severe Penicillin allergy or MRSA : Clindamycin PLUS	10mg/kg (Max 600mg) (Neonates: 5mg/kg)	6 hours Neonates (<44 weeks): 8 hours
		Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing
	Delayed skeletal stabilisation after initial debridement (i.e. >12hours.)	Teicoplanin PLUS (if more than 24 hours post debridement)	10mg/kg (max 800mg) (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing
Gentamicin		7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing	
Spinal Surgery	Gentamicin PLUS	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing	
	Teicoplanin	10mg/kg (max 800mg): (Neonates: 16mg/kg infused over 30 mins)	No repeat dosing	
Urology	Cystoscopy (With biopsy/minor manipulation)	Co-Amoxiclav	30mg/kg (max 1.2g)	4 hours. Max. 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Penicillin allergy: Cefuroxime	50mg/kg (max 1.5g)	4 hours at 30mg/kg (max 750mg) . Max 3 doses in 24 hours Neonate (<44 weeks): 6 hours at 30mg/kg .
		Severe Penicillin allergy or MRSA : Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing
	Urological Procedures (entering urinary tract) e.g. Nephrectomy, pyeloplasty, PUV ablation, hypospadias	Co-Amoxiclav	30mg/kg (max 1.2g)	4 hours. Max. 3 doses in 24 hours. Neonate (<44 weeks): no repeat dosing.
		Pen allergy or MRSA : Clindamycin PLUS	10mg/kg (Max 600mg) (Neonates: 5mg/kg)	6 hours Neonates (<44 weeks): 8 hours
		Gentamicin	7mg/kg (max 400mg) (Neonates: 5mg/kg)	No repeat dosing

Speak to a pharmacist or medicines information in patients with renal or hepatic impairment regarding required dose adjustments

General principles of surgical antimicrobial prophylaxis

- For surgical procedures, intravenous prophylactic antibiotics should be given within 60 minutes before the skin is incised and as close to time of incision as practically possible
- Additional intra-operative doses of antimicrobial may be given if there is major blood loss (>25ml/kg). Antibiotics requiring a stat dose after fluid replacement (not required if received second intra-operative dose within 2 hours): Co-amoxiclav, Cefuroxime, Clindamycin, Flucloxacillin, Metronidazole (7.5mg/kg)
- Note: Additional doses of teicoplanin or gentamicin must not be given if there is major blood loss (>25ml/kg)